

REMARKS

Claims 1-3 are pending in this application.

Claims 1-3 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the Examiner has repeated the same rejection discussed in the previous Office Action, that is, the claims are generally narrative and indefinite. However, claims 1-3 have previously been amended to overcome the basis of the rejection. Nevertheless, the Examiner has now questioned the meaning of the phrase “a toggle mechanism for operating to rotate ...” as defined in claim 1, and the phrase “when said moving contact is in contact with said fixed contact [claim 2 line 4, is applicant referring to the impact force of the moving contact being brought into contact with said moving contact].” In response thereto, claim 1 has been amended to further define that the “toggle mechanism” is “operable to rotate said moving contact support member so as to bring said moving contact held at one end of said moving contact support member into and out of contact with said fixed contact” in order to render the rejection moot. As for the assertion regarding claim 2, Applicants submit that there is **no** ambiguity with the phrase “an impact force, generated when said moving contact is in contact with said fixed contact by said toggle mechanism, is transmitted through the case to prevent occurrence of a mistrip” as defined in claim 2. The definiteness of the language employed must be analyzed not in a vacuum, but in light of the teachings in the prior art and of the particular application disclosure as it would be interpreted by one skilled in the art. In re Angstadt, 537 F.2d 498, 190 USPQ 214, 217 (CCPA 1976). When interpreted in view of Applicants’ disclosure, these phrases are clear as to their intended meanings.

Therefore, in view of these explanations, and the proposed amendments to claim 1, Applicants respectfully request that the rejection of claims 1-3 be withdrawn. Entry of the foregoing amendments is proper under 37 C.F.R. §1.116(b) because those amendments simply respond to the issues raised in the final rejection, no new issues are raised, no further search is required, and the foregoing amendments are believed to remove the basis of the outstanding rejections and to place all claims in condition for allowance. The foregoing amendments, or explanations, could not have been made earlier because these issues had not previously been raised.

In the Advisory Action (Paper No. 9) dated on July 14, 2003, the Examiner never indicates whether the rejection of claims 1-3 under 35 U.S.C. §112, second paragraph, as being indefinite, will be withdrawn for purposes of appeal. However, for purposes of placing the application in better form for appeal by materially reducing or simplifying the issues for appeal, Applicants hereby request that the Examiner expressly indicates whether such a rejection of claims 1-3 under 35 U.S.C. §112, second paragraph, as being indefinite, will be withdrawn upon the filing of an Appeal Brief.

Lastly, claims 1-3 have been rejected under 35 U.S.C. §103 as being unpatentable over newly cited art, Kume, U.S. Patent No. 5,886,604, in view of Kralik, U.S. Patent No. 6,087,914 for reasons stated on pages 2-3 of the Office Action (Paper No. 7). In support of this rejection, the Examiner asserts that Kume, U.S. Patent No. 5,886,604, discloses all the features of Applicants' claims 1-3, except for the use of a "fixed frame" which is allegedly disclosed by FIG. 7, items 70-72 of Kralik, U.S. Patent No. 6,087,914.

Again, this rejection is respectfully traversed, however. Applicants respectfully submit that features of Applicants' claims 1-3 are **not** disclosed or suggested by Kume, U.S. Patent No. 5,886,604 and Kralik, U.S. Patent No. 6,087,914 as alleged by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection for the following reasons.

Base claim 1 defines a circuit breaker comprising not only a main circuit and an opening/closing mechanism including "a toggle mechanism operable to rotate said moving contact support member so as to bring said moving contact held at one end of said moving contact support member into and out of contact with said fixed contact", but also "a trip lever of a disengaging device" being "mounted on a yoke of said coil" (and **not** mounted on a fixed frame of the opening/closing mechanism 8 as shown in FIGs. 1-5) and "**separated from a fixed frame**" as described on page 3, lines 3-7; and page 5, line 37 extending to page 6, line 13 of Applicants' original specification, also see FIGs. 1-2.

According to Applicants' claimed "circuit breaker", the trip lever 23 is mounted on the yoke 30 of the coil 32 in the disengaging device 9 (not mounted on the fixed frame of the opening/closing mechanism 8) so as to enable the trip lever 23 in the disengaging device 9, as shown in FIGs. 1-5, to be **separated** from the fixed frame 13 of the opening/closing mechanism 8. Since the trip lever 23 is mounted on the yoke 30 of the coil 32 in the disengaging device side 9, and the shock caused at the opening/closing mechanism side 8 during ON-OFF operations is transmitted through the case 10. As a result, mistrip, typically occurred when the moving contact is

brought into contact with the fixed contact, can be prevented as described in Applicants' original specification.

In contrast to the arrangement of a trip lever of a disengaging device **separated from a fixing frame** as expressly defined in Applicants' claims 1-3, Kume U.S. Patent No. 5,886,604, as a primary reference, discloses a circuit breaker as shown in FIG. 1, designed to provide shock and vibration resistance. An electromagnetic trip coil 13 and an electromagnetic coil 16 are used and mounted on an internal side wall of the housing 6 along with an inverted L-shaped movable iron piece 15. On column 4, line 51 extending to column 5, line 3, Kume '604 discloses preventing of missing trip. Specifically, Kume '604 discloses that,

"power is applied to the electromagnetic coil 16, and the movable iron piece 15 is firmly retained in the non-attraction position. Therefore, the movable iron piece 15 is prevented from moving in the attracting direction due to abnormal physical shock or vibration without the need of a spring used for the purpose of firmly retaining the movable iron piece 15 in the non-attraction position.

As a result, there is **no** risk of the circuit breaker 5 erroneously performing tripping action, thereby resulting in stable circuit-breaking operation with improved reliability.

Further, the handle 8 is constrained in the on position by means of the lock member 26, and hence the handle 8 itself is prevented from pivoting to the off position due to abnormal physical shock or vibration. Therefore, there is **no** risk of the circuit breaker 5 erroneously performing tripping action. If the circuit breaker employs the electromagnetic coil 16 together with the lock member, the reliability of the circuit breaker is improved further.

In other words, since a movable iron piece 15 is forcibly retained at an anti-absorption position of a retaining electromagnetic coil 16, there is no risk of the circuit breaker 5 erroneously performing tripping action, even if a spring is not set.

The electromagnetic coil 13 does not turn on electricity, as shown in FIG. 3A, while the movable iron piece 15 is strongly held at an anti-absorption position of the holding electromagnetic coil 16 so as to prevent the movable iron piece 15 from moving in the absorption direction by abnormal shock or vibration. In addition, since a handle 8 is stopped at an on-position thereof by a lock member 26, there is **no** risk of the circuit breaker 5 performing tripping action.

However, Kume '604 does **not** disclose or describe any structure of "a trip lever of a disengaging mechanism" that is "**separate from a fixing frame**" as expressly defined in Applicants' claim 1.

In other words, contrary to the Examiner's assertion, there is **no** disclosure anywhere in Kume '604 of Applicants' claimed "trip lever of a disengaging device" being "mounted on a yoke of said coil" (and **not** mounted on a fixed frame of the opening/closing mechanism 8 as shown in FIGs. 1-5) and "separated from a fixed frame" as described on page 3, lines 3-7; and page 5, line 37 extending to page 6, line 13 of Applicants' original specification, also see FIGs. 1-2.

As a secondary reference, Kralik, U.S. Patent No. 6,087,914, does **not** and cannot remedy the noted deficiency of Kume '604. This is because Kralik '914 only disclose the circuit breaker, shown in FIG. 10, having the shaft 104 provided on the side frame 72, as shown in FIG. 9 and FIG. 10. This shaft 104 corresponds to a rotary shaft of the trip bar, and the member having a "⊥" oblique shape and connected to the shaft 104 corresponds to a trip lever. This structure, as shown in FIG. 10, utilizes the trip lever provided on a fixing frame 72.

As a result, the trip lever as described by Kralik '914 is completely different in its structure from at of Applicants' claims 1-3 in which **"the trip lever of the disengaging mechanism is separated from the fixing frame"**.

The law under 35 U.S.C. §103 is well settled. In order to establish a *prima facie* case of obviousness under 35 U.S.C. §103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skilled in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and **not** based on Applicants' disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 2143. In other words, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USQP 494, 496 (CCPA 1970).

In the present situation, neither Kume '604 nor Kralik '914 discloses or suggests, whether individually or in combination, the use of Applicants' claimed "trip lever of a disengaging device" being "mounted on a yoke of said coil" (and **not** mounted on a fixed frame of the opening/closing mechanism 8 as shown in FIGs. 1-5) and "separated from a fixed frame" as expressly defined in Applicants' claims 1-3.

There is no teaching or suggestion to make the combination as proposed by the Examiner. As a result, Applicants respectfully request that the rejection of claims 1-3 be withdrawn.

In view of the foregoing amendments, arguments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Again, entry of the foregoing amendments is proper under 37 C.F.R. §1.116(b) because no new issues are raised, no further search is required, and the foregoing remarks and arguments are believed to remove the basis of the outstanding rejections and to place all claims in condition for allowance. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney at the Washington DC area office at (703) 312-6600.

INTERVIEW:

In the interest of expediting prosecution of the present application and avoiding unnecessary appeal, Applicants respectfully request that an Examiner interview be scheduled and conducted. In accordance with such interview request, Applicants respectfully request that the Examiner, after review of the present Amendment, contact the undersigned local Washington, D.C. area attorney at the local Washington, D.C. telephone number (703) 312-6600 for scheduling an Examiner interview, or alternatively, refrain from issuing a further action in the above-identified application as the undersigned attorneys will be telephoning the Examiner shortly after the filing date of this Amendment in order to schedule an Examiner interview. Applicants thank the Examiner in advance for such considerations. In the

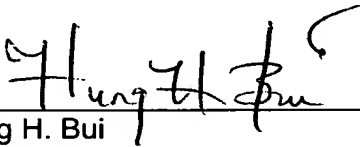
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event that this Amendment, in and of itself, is sufficient to place the application in condition for allowance, no Examiner interview or Appeal Brief may be necessary.

Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (500.39462X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

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